APPENDIX D

MASTER SURFACE USE PLAN
INCLUDING
BLM CONDITIONS OF APPROVAL

MASTER SURFACE USE PLAN

June 15, 2001
Double Eagle Petroleum Company
P.O. Box 766
Casper, Wyoming 82602
(307) 237-9330
Cow Creek Area of Pod #6
Carbon County, Wyoming

Double Eagle Petroleum Company is proposing the drilling of eight (8) exploratory coalbed methane (CBM) wells near and in the Cow Creek Unit or Pod #6 of the Interim Drilling Plan associated with the Atlantic Rim Environmental Impact Study in Carbon County, Wyoming.

The Atlantic Rim Environmental Impact Study will commence in 2001 and cover approximately 300,000 acres. The EIS is expected to take 18-24 months to complete. During the interim period before the EIS completion, the Bureau of Land Management will allow the drilling of up to 200 exploratory wells. Currently oil and gas operators have identified 9 areas or "Pods" where these exploratory wells will be located.

The Interim Drilling Plan associated with the Atlantic Rim Environmental Impact Statement allows for the drilling of 24 CBM wells, 1 aquifer recharge well and 1 disposal well in Pod #6 located in portions of Sections 12 of Township 16 North, Range 92 West and Sections 7, 17 & 18 of Township 16 North, Range 91 West, Carbon County, Wyoming. 10 CBM wells and the disposal well located in Sections 8 and 17 of Township 16 North, Range 91 West will be operated by PEDCO/Warren Resources. The remaining 14 CBM wells and 1 aquifer recharge well in Pod #6 will be operated by Double Eagle Petroleum. This Master Surface Use Plan also serves as Double Eagle's right of way application for operations proposed herein. **This Master Surface Use Plan focuses solely on the wells to be operated by Double Eagle Petroleum.**

The 14 CBM wells Double Eagle will operate in Pod #6 currently consist of 2 existing CBM wells, 4 existing and approved Permits to Drill, and 8 proposed locations. Of this total 14 wells/locations, 9 will be within the Cow Creek Federal Unit on federal leases C-07345B and C-075345A and WYW-48862. The remaining 5 proposed wells will be on federal lease #WYW-131275.

For purposes of this Master Surface Use Plan, Double Eagle has combined the surface use methods employed in its 2 existing CBM wells and 4 approved CBM locations with the proposed eight (8) new CBM locations and aquifer recharge well. This Master Surface Use Plan is not intended to modify the surface uses approved for its existing wells or locations, rather it is to compliment and coordinate the two plans. A topographic map showing the wells, approved APDs, proposed locations, access routes and pipelines is attached to this Plan as Exhibit "A".

Following is a list of the CBM wells and aquifer recharge well located within Pod #6 for which Double Eagle will operate:

ell Name	Location	Lease	Status
CCU #1X-12	NW¼SE¼ (12, T16N-R92W)	C-075345B	Producing
CCU #34-12	SW¼SE¼ (12, T16N-R92W)	C-075345A	Shut-in
CCU #32-12	SW¼NE¼ (12, T16N-R92W)	C-075345A	Approved APD
CCU #42-12	SE¼NE¼ (12, T16N-R92W)	C-075345A	Approved APD
CCU #43-12	NE¼SE¼ (12, T16N-R92W)	C-075345A	Approved APD
CCU #44-12	SE¼SE¼ (12, T16N-R92W)	C-075345A	Approved APD
CCU #12-7	Lot 6 (SW¼NW¼) (7, T16N-R91W)	W-48862	Application
CCU #13-7	Lot 7 (NW¼SW¼) (7, T16N-R91W)	W-48862	Application
CCU #14-7	Lot 8 (SW¼SW¼) (7, T16N-R91W)	W-48862	Application
DBLE #24-7	SE¼SW¼ (7, T16N-R91W)	W-131275	Application
DBLE #33-7	NW¼SE¼ (7, T16N-R91W)	W-131275	Application
DBLE #34-7	SW¼SE¼ (7, T16N-R91W)	W-131275	Application
DBLE #43-7	NE¼SE¼ (7, T16N-R91W)	W-131275	Application
DBLE #44-7	SE¼SE¼ (7, T16N-R91W)	W-131275	Application
ARW #1	SE¼NW¼ (12, T16N-R92W)	C-075345A	Application

The wells operated by Double Eagle are located on federal oil and gas leases C-07345B, C-075345A, W-8862 and W-131275. Lease WYW-131275 has a time stipulation from February 1st to July 31st for sage grouse and raptor nesting. All locations are covered within the area of wildlife analysis completed by Hayden-Wing and Associates for PEDCO/Warren Resources in Spring 2001. From that study, the only wildlife concern in the immediate area are a 2-mile buffer from a sage grouse lek and prairie dog town. The sage grouse lek will be addressed with a timing stipulation and the prairie dog town was addressed by moving locations and access routes a sufficient distance from the site. Block cultural surveys have been conducted on each location and applicable right-of-ways. All of these concerns identified by these studies can be easily be addressed without mitigation while staking the locations.

The drilling of the above locations will determine whether coalbed methane gas production is possible and economic. The coal seams targeted in the Cow Creek Area and Pod #6 will be the Mesaverde formation coals. Drilling locations are spaced on 40 acre spacing. This spacing is viewed by Double Eagle initially as the most warranted spacing since this area has only one (1) producing CBM well and therefore no reliable reservoir data exists to date. BLM's Reservoir Management Group identified The Cow Creek Pod or Pod #6 as having the only well testing coalbed methane in the proposed EIS area and "having the best economic coalbed methane potential due to its structural location".

These comments and others lead BLM to specify this area as the only one which would be allowed to discharge production water onto the surface. This discharge would be under a National Pollution Discharge Elimination System (NPDES) permit issue by the Wyoming Department of Environmental Quality (DEQ). Double Eagle is currently applying for a NPDES permit from the Wyoming Department of Environmental Quality which is designed to not increase impacts to the drainage basin and to explore alternative methods of containment and disposal of produced water. The NPDES permit will be discussed further in this Plan and is attached to the Water Management Plan which accompanies the APDs for each well.

All unproductive wells will be plugged and abandoned as soon as practical after the conclusion of production testing. Productive wells may be shut-in temporarily for gas pipeline connection or for authorization from the Wyoming DEQ for temporary or permanent surface water discharge permits and/or approval of sundry notices by the BLM for production activities and facilities.

All gas production and water production from Double Eagle operated wells will flow in underground pipelines to a Central Delivery Point (CDP) facility. The CDP will be located at the CCU #1X-12 wellsite in the NW¼SE¼ of Section 12, Township 16 North, Range 92 West. Once gas production enters the CDP it will be metered, compressed and sold into an existing third party gas sales lying beneath the CDP. Production water will enter the CDP and flow into an existing settling pond. From the pond, the water will be addressed in several ways as defined and approved by the Wyoming DEQ under the NPDES permit.

1. Existing Roads

Access to the Cow Creek Area wellsites is obtained by road traveling approximately 38 miles South of Creston Junction, Wyoming. From the intersection of Interstate 80 and Highway 789 (Creston Junction Exit), proceed south toward Baggs, Wyoming on Highway 789 for approximately 31 miles to Dad, Wyoming. Turn left (east) at Dad and follow the main road for approximately 3 miles where the road forks. Take the left fork and continue on for 2 miles to the Cow Creek 1X-12 wellsite and Battery. This site will become the Central Delivery Point (CDP) of all Double Eagle wells discussed under the Master Surface Use Plan. For further reference, please see the area and topographic maps in the individual well Application for Permit to Drill (APDs) for the location of each well, access route and location of nearby roads.

The existing roads are shown on an enclosed map. Existing roads will be maintained in as good or better condition than they now exist. All equipment and vehicles will be confined to these travel corridors and other areas specified in the plan of development.

2. Proposed Access Roads to be Constructed

A. No new main roads will be needed to access wells in this program as existing two-track roads are already present and will represent the main corridors for access to the wellsites. However, new ancillary roads branching off these main roads to each location for access and utility trenches will require construction and are discussed later in the Plan. Each roadway access route will be 16 feet in width and be a dirt road which is crowned and ditched following the general terrain. Drainage crossings on the access routes will be constructed as low water crossings or with installation of culverts. Low water crossings will be employed in gentle sloping terrain as opposed to culverts which will be used in steeper terrain. Drainage structures will be designed to pass all naturally occurring mean flows.

B. After wells are completed and equipment is installed, travel to wells will normally be limited to one visit per day. A light truck or utility vehicle will be used to check on operations, read meters, and provide light service during the life of the project. The integrity of all discharge facilities would be checked during these wellsite visits in addition to monitoring compliance with the NPDES permit, and ensure that all discharges occur only as planned and authorized. Well service trips could be rescheduled or postponed during periods of wet weather when vehicle travel could cause rutting.

C. If wells are productive, the portions of access routes that provide access to the CDP facility will be upgraded to an all weather road to provide year around service. Road up-grading will consist of graveling the road way with scoria material that is acceptable to the surface owner. Culverts and other road drainage control structures will be installed at specific locations as specified by the landowner.

D. All equipment and vehicles will be confined to these travel corridors and other areas specified in the plan of development.

3. Location of Existing Wells

All existing wells or locations known within one mile of the proposed Double Eagle locations are shown on the area and topographic maps in the individual well Application for Permit to Drill (APDs) for the location of each well.

A. Water Wells: One, Non Producing

B. Abandoned Wells: Eleven

C. Temporarily Abandoned Wells: None

D. Disposal Wells: None

E. Drilling Wells: None

F. Producing Wells: Two

G. Completing Wells: None

H. Shut In Wells: Three

I. Injection Wells: None

J. Monitoring or Observation Wells: None

K. Proposed or Permitted Wells: 25

4. Existing and/or Proposed Facilities if Well is Successful

A. There are no existing facilities on the wellsite locations.

B. A graded wellpad with the dimensions of 180 feet by 200 feet will be constructed at the wellsite. A portion of these areas will be reclaimed and reseeded after drilling and completion operations are completed. All areas will be reclaimed and reseeded after operations are completed

C. During operations, surface facilities at the wellsite will consist of a wellhead and insulated wellhead cover in an area approximately 10 feet by 10 feet. An area with the dimensions of 100 feet by 100 feet will not be reclaimed as such is needed for servicing the well. Each wellbore will have a pump installed to pump water from the coal formation thereby allowing for the release and production of natural gas. Exposed surface facilities will be painted Carlsbad Cavern colors approved by BLM.

D. Two buried pipelines and one buried power cable, each appropriate in length to travel the distance from each wellsite on the defined access routes to the CDP will be installed between the well location and the CDP as shown on the enclosed map. The pipelines and power cable will be installed in the same trench. Each trench will 4 feet deep to prevent freezing of pipelines. The pipelines will be constructed of HDPE or steel pipe. One pipeline will transport the produced water and the other will transport the gas. A backhoe or small trencher will be utilized to dig the trench(s) thus, surface disturbance will be minimized.

5. Location and Type of Water Supply

Water for drilling, completing and dust control of the proposed wells will be obtained from the settling pond at the CDP located in the NW¼SE¼ of Section 12, T16N, R92W. The water in the settling pond is production water from the CCU #1X-12 well. Water will be hauled by truck to the well locations over existing roads. Water volumes used in the operations is dependent upon the depth of the well and the losses that might occur during the operation.

6. Construction Materials

No construction material will be needed for drilling purposes. There are no plans to use any federally owned material, but should that become necessary, the required approvals will be obtained prior to use. Construction and drilling activity will not be conducted using frozen or saturated soil material or during periods when watershed damage or excessive rutting is likely to occur. If production is established, gravel will be purchased from a local supplier and the material will be spread on the roadway for it to maintain all weather travel to the CDP facility.

7. Methods of Handling Waste Disposal

A. All wastes that accumulate during the drilling operations will be contained in a trash cage that is fenced and completely enclosed with a fine wire mesh, and will be removed from the location and deposited in an approved sanitary landfill. Immediately after removal of the drilling rig, all garbage and debris on the site will be removed from the site. The reserve pit will not be utilized for trash disposal. All state laws and regulations pertaining to containment and disposal of human waste will be complied with.

B. Double Eagle and its contractors shall ensure that all use, production, storage, transport, and disposal of hazardous and extremely hazardous materials associated with the drilling, completion and production of wells, and project operations will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations and guidelines.

C. For the protection of livestock and wildlife, all pits will be fenced “stock tight” and any pits containing toxic liquids will be netted with 2" mesh netting.

D. Cuttings and drilling fluids shall be put in the reserve pit during drilling. A wire fence will be installed around the pit during drilling and after the drilling rig leaves. There will be no oil, salt water or other noxious fluids produced during drilling and completion operations.

8. Ancillary Facilities

It is anticipated that there will be a maximum of three (3) trailers on location during drilling and completion operations. Upon conclusion of the operations, the trailers or other facilities will be removed from the site.

9. Wellsite Layout

A. Please refer to the diagrams attached to the individual APDs or the Master Drilling Plan that shows each drill pad orientation with cuts and fills. Location dimensions are surveyed as 200' by 180' maximum area. However, the amount of area actually used for the drillsite will be dependent on the drilling rig used. The only grading of the wellsite will be the part of the location where the drilling rig and ancillary facilities are positioned. Within the location

dimension, a temporary pit will be excavated measuring 15 feet wide and 15 feet long and 12 feet deep. The estimated life of the pit will be 2-3 weeks to allow for evaporation of pit fluids and will be reclaimed after completion operations. The pit will be fenced "stock tight" to prohibit livestock and wildlife from falling into it.

B. Where grading occurs, the top 6 inches of soil material will be removed from the location, including areas of cuts, fill and subsoil storage areas, and will be stockpiled at the site. If ground frost prevents the segregation and removal of the topsoil material from the less desirable subsoil material, cross-ripping to the depth of the topsoil material will be completed as necessary.

C. Care will be exercised to make certain that soil material and overburden will not be pushed over side-slopes or into drainages. All soil material disturbed will be placed in an area where it can be retrieved.

D. If there is snow on the ground when construction begins, it will be removed before the soil is disturbed, and it will be piled downhill from the topsoil stockpile location.

E. The backslope and foreslope will be constructed no steeper than 1.5:1. The reserve pit will be constructed with a minimum of one-half (½) the total depth below the original ground surface on the lowest point within the pit.

F. The reserve pit will be fenced stock-tight on all sides when the well is suspended, completed or abandoned.

G. The reserve pit will be oriented to prevent collection of surface runoff. The pad will be constructed in such a manner as to prevent water from draining across the pad.

H. Block cultural surveys have been conducted on all locations and utility right-of-way corridors and have identified no negative impact from the proposed operations. However, if in connection with construction operations, the lessee/operator, his contractors, subcontractors, or the employees of any of them discover, encounter or become aware of any objects or sites of cultural value on the affected area, such as historical or prehistorical ruins, graves or grave markers, fossils, or artifacts, the lessee/operator shall immediately suspend all operations in the vicinity of the cultural value and notify the BLM Authorized Officer of the findings. Operations may resume at the discovery site upon receipt of written instruction and authorizations by the Authorized Officer, Bureau of Land Management.

10. Plans For Reclamation of the Surface

A. Reclamation procedures whether the well is completed as a successful production well or as a dry hole:

1) Rat and mouse holes if present will be filled immediately upon release of the drilling rig from the location.

2) All garbage, trash and debris will be removed and properly disposed of in accordance with paragraph number 7 of this Plan entitled Methods of Handling Waste Disposal.

3) The liquid contents of the reserve pit may be hauled to the next well to be immediately drilled or will be allowed to dry before backfilling, or pit fluids will be removed and disposed of in a manner approved by the Authorized Officer of the BLM before the reserve pit is backfilled.

4) All rehabilitation work, including seeding, will be completed within one(1) year of completion of the operation. The areas not needed for production purposes will be recontoured, top soil respread and seeded utilizing the seed mixture provided by the surface management agency.

5) All pits will be closed within 90 days after completion of operations or when the pit has dried out sufficiently to permit reclamation, but no case longer than one year after completion of operations without an extension approved by BLM.

B. Additional reclamation procedures if the well is completed as a dry hole:

1) A Notice of Intent to Abandon and Subsequent Report of Abandonment will be submitted to BLM for approval. A Final Abandonment Notice will be submitted when the rehabilitation is complete and the new vegetation is established.

2) An above-ground tubular metal dry-hole marker will be erected over the drill-hole location upon cessation of drilling and/or testing operations. The marker will be inscribed with the operator's name, well number, well location (¼ ¼, section, township, range, etc.) and federal lease number. Upon request of the surface management agency, the casing may be cut-off-three (3) feet below reclaimed ground surface (or below plow depth) with a metal plate affixed to the top providing the same well information as stated above. This monument will consist of a piece of pipe not less than four inches in diameter and ten feet in length, of which four feet shall be above the general ground level and the remainder being imbedded in cement. The top of the pipe will be closed by a welded or screw cap, cement or other means.

3) All disturbed areas will be restored as nearly as possible to resemble the surrounding terrain. Topsoil will be respread and reseeding will be done according to the directions of the surface management agency. Care will be taken to prevent erosion.

C. Additional reclamation procedures if the well is completed as a producing well:

1) Those disturbed areas not required for production operations will be recontoured to resemble surrounding terrain. No depressions will be left that trap water or form ponds.

2) The backslope and foreslope will be reduced to 2.5:1 by pulling fill material up from the foreslope and placing it into the toe of cut slopes.

3) If warranted, water bars at least one (1) foot deep will be constructed on the contour with approximately two (2) feet of drop per 100 feet of water bar to ensure drainage, and will be extended into established vegetation. All water bars will be constructed with a berm on the downhill side to prevent the soft material from silting in the trench. Water bar spacing on the location will be midway between the top and bottom of the backslope, and midway between the top and bottom of the foreslope.

4) Topsoil will be distributed evenly over those areas not required for production, and will be reseeded as recommended by the surface management agency.

5) To maintain quality and purity, certified seed with a minimum germination rate of 80% and a minimum purity of 90% will be used, in a mix directed by the surface management agency.

11. Surface Ownership

The surface estate of the access roads, drillsites and pipeline routes covered by this Plan are managed by the BLM.

12. Other Information

An Environmental Assessment (EA) of the area covered by this Master Surface Plan is being prepared by Mr. Gary Holsan, P. O. Box 275, Thayne, Wyoming 83127. Once the document is completed it will be forwarded to BLM's office in Rawlins, Wyoming.

An in depth wildlife analysis has been conducted by Hayden-Wing Associates, P.O. Box 1689, Laramie, Wyoming 82073 in conjunction with the Atlantic Rim Environmental Impact Study. BLM has received a copy of this analysis.

All drillsite locations have been surveyed by a registered professional land surveyor.

Block cultural surveys for each quarter-quarter section where a wellsite, access road or pipeline route is located have been conducted by a BLM approved archeologist and is on file with BLM who will forward a copy of same to the State Historical Preservation Office (SHPO).

A Water Management Plan is attached to the Master Surface Use Plan that addresses how produced water will be handled during the testing and production of the CBM wells.

General factors on the area are described as follows:

A. Topography – The wellsites located on generally flat terrain broken by small drainages. One (1) wellsite is situated on an abandoned wellsite. The main wellsite access route and one ancillary road are existing two-track roads.

B. Soils – Soils in the area are sandy loam.

C. Wildlife – Species present in the area include mule deer, antelope, rabbits, coyotes, fox, badgers, rodents and various birds.

D. Vegetation – Species occurring within the area include mixed short grasses, low sagebrush, prickly pear cactus, phlox and creosote bush.

E. Closest Residence – The closest residence to the proposed wellsite is approximately 4.6 miles to the southwest.

F. Land use – The primary use of the subject land is livestock grazing and mineral production.

13. Lessee or Operator's Certification

Double Eagle Petroleum Company, hereby certifies that said company is authorized to conduct operations on the above described land under the terms and conditions of Federal Oil And Gas Leases C-075345A, C-075345B, W-48862, WYW-131275 and Unit W-109471X. Bond coverage pursuant to 43 CFR 3104 is provided by Double Eagle Petroleum Company. The applicable bond number is on file in the Wyoming State Office, BLM Bond No. WY3224, a statewide oil and gas lease bond in the amount of $25,000.00.

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsites and access routes; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct and that the work associated with the operations proposed herein will be performed by Double Eagle Petroleum Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Double Eagle Petroleum Company

Name: _____ Date: _____
Stephen H. Hollis, President

Cow Creek Unit POD No. 6
Conditions of Approval for Applications for Permit to Drill

The following Conditions of Approval are *in addition* to the General Permitting Requirements and all mitigation measures outlined in the Master Surface Use Plan

Well Name and No.	Federal Lease No.	Location
Cow Creek Unit #12-7	WYW-48862	T.16N., R.91W., sec. 7, SWNW
Cow Creek Unit #13-7	WYW-48862	T.16N., R.91W., sec. 7, NWSW
Cow Creek Unit #14-7	WYW-48862	T.16N., R.91W., sec. 7, SWSW
Cow Creek Unit #24-7	WYW-131275	T.16N., R.91W., sec. 7, SESW
Cow Creek Unit #33-7	WYW-131275	T.16N., R.91W., sec. 7, NWSE
Cow Creek Unit #34-7	WYW-131275	T.16N., R.91W., sec. 7, SWSE
Cow Creek Unit #43-7	WYW-131275	T.16N., R.91W., sec. 7, NESE
Cow Creek Unit #44-7	WYW-131275	T.16N., R.91W., sec. 7, SESE

SURFACE USE PLAN OF OPERATIONS

Existing Roads

1. All existing roads that are used to access the wells shall be brought up to BLM minimum standards as found in BLM Manual 9113.

2. Maintenance of existing roads used to access the well locations will continue until final abandonment and reclamation of the well locations occurs. A regular maintenance program will include, but is not limited to, blading, ditching, culvert installation, and gravel surfacing where excessive rutting may occur. Roads will not be flat bladed. Excessive rutting or other surface disturbance will be avoided. Operations will be suspended temporarily during adverse weather conditions if excessive rutting is occurring when access routes are wet, soft, or partially frozen.

3. The holder shall share maintenance costs in dollars, equipment, materials, or labor proportionate to holder's use with other authorized users. Upon request, the Authorized Officer shall be provided with copies of any maintenance agreement entered into.

4. If snow removal outside the new and existing roadways is undertaken, equipment used for snow removal operations will be equipped with shoes to keep the blade off the ground surface. Special precautions will be taken where the surface of the ground is uneven to ensure that equipment blades do not destroy the vegetation.

Proposed Access Roads to be Constructed

1. Access to the individual well sites will be provided by crowned and ditched roads surfaced with an appropriate grade of gravel. Surfacing of the access roads will be completed prior to moving the drilling equipment/rig onto the pad. The access roads will follow existing terrain and the travelway will be approximately 16-feet wide.

   Certain access roads, or portions thereof, may not need to be surfaced prior to moving the drilling equipment/rig onto the well pad. Factors to be considered here are soil types, grade, and weather conditions that suggest excessive rutting or erosion may occur without gravel.

2. Access to individual well sites will be constructed to minimum standards for a BLM "resource road" as outlined in BLM Manual section 9113. The minimum travelway width of the road will be 16 feet with turnouts. No structure will be allowed to narrow the road top. The inside slope will be 4:1. The bottom of the ditch will be a smooth V with no vertical cut in the bottom. The outside slope will be 2:1 or shallower. Turnouts will be spaced at a maximum distance of 1,000 feet and will be intervisible.

3. Topsoil and vegetation will be windrowed to the side of the road. After the road is crowned and ditched with a 0.03 -0.05 ft/ft crown, the topsoil will be pulled back onto the cut slopes of the road ROW so there is no berm left at the top of the cut slope.

4. Culverts will be installed on the new access roads in the drainages identified during the onsite inspection and as noted on the topographic maps in the well files. Additional culverts will be placed in the access road as the need arises or as directed by BLM's Authorized Officer.

   Culverts will require a minimum of 12 inches of fill or one-half the pipe diameter, whichever is greater. The inlet and outlet will be set flush with existing ground and lined up in the center of the draw. The bottom of the pipe will be bedded on good material before backfilling. Backfill with unfrozen material and no rocks larger than two inches in diameter. Care shall be exercised to thoroughly compact the backfill under the haunches of the conduit. The backfill shall be brought up evenly in six inches layers on both sides of the conduit and thoroughly compacted. A permanent marker will be installed at both ends of the culvert to help keep traffic from running over the ends. Culverts will be installed in a manner which minimizes erosion or head-cutting. This may include riprapping or other measures as required.

5. The access roads will be winterized by providing a well-drained travelway to minimize erosion and other damage to the roadway or the surrounding public land.

6. Wing ditches will be constructed as the need arises or as directed by BLM's Authorized Officer to divert water from the road ditches. Wing ditches will be constructed at a slope of ½%-1%.

7. Where needed, a Double Eagle Petroleum Co. representative will conduct a "Plans in Hand" review with contractors to review the access routes to well locations. Where needed, directional markers will be temporarily placed to mark access routes. All markers will be removed as soon as they are no longer needed.

8. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of four inches deep, the soil shall be deemed too wet to adequately support construction equipment.

9. Construction activity or routine maintenance will not be conducted using frozen or saturated soil material or during periods when watershed damage is likely to occur.

10. Unless otherwise exempted, free and unrestricted public access will be maintained on all access roads.

Existing and/ or Proposed Facilities if the Wells are Successful

A. On the Well Pad

   1. At each drill location, surface disturbance will be kept to a minimum. The areal extent of each drill pad shall not be more than the proposed 180 feet by 200 feet unless a "change of plans Sundry Notice" is submitted along with a new Class III archaeological survey and

wildlife survey. Each drill pad will be leveled using cut and fill construction techniques where needed. If production facilities will be different in any way from Figure 2-4 of the EA, "Diagram of a Typical CBM Wellhead Configuration," a Sundry Notice shall be submitted prior to installation.

2. The operator shall submit a Sundry Notice for approval prior to construction of any new surface-disturbing activities on-lease that are not specifically addressed in the Master Surface Use Plan, Environmental Assessment, or individual APDs.

3. In order to minimize surface disturbance, where possible, the operator shall utilize wheel trenchers or ditch witches to construct all pipeline trenches associated with this project. Track hoes or other equipment will be used where topographic or other factors require their use.

4. All above-ground structures, production equipment, tanks, transformers, and insulators not subject to safety requirements shall be painted to blend with the natural color of the landscape. The paint used shall be a color which simulates Standard Environmental Colors. The color selected is Carlsbad Canyon (2.5Y 6/2).

B. Off the Well Pad

1. The compressor site will consist of an insulated header building containing allocation meters for each well and a single sales meter. The header building will also contain a dehydrator that will remove water from the wet gas stream. If different production facilities are required, plans will be submitted in a Sundry Notice, prior to installation.

2. All tanks and pits will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of water.

3. All tanks and pits will be fenced or capped to prevent livestock or wildlife entry.

4. All tanks and pits will be kept reasonably free from surface accumulations of liquid hydrocarbons and are not to be used for disposal of water from other sources without the prior approval of the BLM and Wyoming DEQ. Any discharge from the tanks or pits will be reported to the BLM as required by NTL-3A.

5. All storage tanks and compressor facilities, designed to contain oil, glycol, produced water, or other fluid which may constitute a hazard to public health or safety, shall be surrounded by a secondary means of containment for the entire contents of the largest single tank in use, plus one foot of freeboard. The containment or diversionary structure shall be impervious to any oil, glycol, produced water, or other toxic fluid for 72 hours and would be constructed so that any discharge from a primary containment system would not drain, infiltrate, or otherwise escape to ground water, surface water, or navigable waters before cleanup is completed.

6. Within 90 days of initial production start-up, the operator will submit to the BLM Authorized Officer an analysis of the produced water.

7. Utility trenches and pipelines will be aligned to follow alongside the access roads wherever possible, as previously agreed.

Location and Type of Water Supply

1. Any changes in the water source used to drill the wells, or the method of transportation must have written approval from the BLM's Authorized Officer before the changes take place.

Methods for Handling Waste Disposal

1. Double Eagle will comply with all state and local laws and regulations pertaining to the disposal of human and solid wastes.

2. The reserve pit will be fenced around three sides during drilling. A sheep-tight woven wire would be used on the bottom with two strands of barbed wire above it. The fourth side of the reserve pit will be fenced as soon as the rig leaves the location. The pit will be backfilled within two to three weeks following completion of drilling or when sufficient drying has occurred and topsoil replaced. Any pits containing oil or toxic liquids will be covered with two-inch mesh netting.

3. A portable, self-contained chemical toilet will be provided on location during drilling and completion operations. Upon completion of operations, or as required, the contents of toilet holding tanks will be disposed of at an authorized sewage treatment and disposal facility. Disposal will be in accordance with State of Wyoming, Carbon County, and BLM requirements regarding sewage treatment and disposal. Double Eagle will comply with all state and local laws and regulations pertaining to disposal of human and solid wastes.

4. Immediately after removal of the drilling rig, all debris and other waste materials not contained will be cleaned up and removed from the well location. No potentially adverse materials or substances will be left on the location.

5. Any spills, leaks, or unapproved discharges of oil, gas, salt water, or any other potentially-hazardous substances will be reported immediately to the BLM and other responsible parties, and will be mitigated immediately, as appropriate, through cleanup or removal to an approved disposal site.

6. CBM-produced or related water shall not be applied to roadways without prior written approval from the WOGCC and the BLM AO.

Well Site Layout

1. All reserve pits shall be constructed in a manner which minimizes the accumulation of surface precipitation runoff into the pits. This can be accomplished by appropriate placement of subsoil/topsoil storage areas and/or construction of berms or ditches.

2. For the protection of livestock and wildlife, all pits and open cellars shall be fenced. Fencing shall be in accordance with BLM specifications.

3. Ditches or berms will be constructed where necessary, or as directed by BLM's Authorized Officer, around the well pads in order to divert water away from the pad.

Plans for Surface Reclamation

1. Prior to reclamation or abandonment of the well site, water disposal pit(s), and the NRCS Reservoir, a joint inspection of the disturbed area will be held. This inspection will be held to review the existing or agree to a new acceptable reclamation plan.

2. All disturbed areas will be reclaimed by replacing topsoil, grading, and seeding with the seed mixture designated by the BLM . Seeding would occur during the spring months after ground frost or in the fall prior to ground frost. Seed shall be applied as directed by the BLM, either drilled, broadcast, or a combination thereof. Mulching may be required to insure seedling establishment.

3. The seed mix will be planted with a drill equipped with a depth regulator. The seed mix will be uniformly planted over the disturbed areas. Where drilling is not possible, seed will be broadcast and the area will be raked or chained to cover the seed. Seeding will be repeated until a satisfactory stand is established as determined by the BLM's Authorized Officer.

   The following seed mixture will be used:

Species of seed	Variety Lbs.* PLS**
Grasses	
Slender wheatgrass (*Agropyron techycaulum*)	2
Thickspike wheatgrass (*Agropyron dasystachyum*) (*Critana*)	4
Western wheatgrass (*Agropyron smithii*)	2
Indian ricegrass (*Oryzopsis hymenoides*)	2
Sandberg bluegrass (*Poa sandbergii*)	0.5
Bottlebrush squirreltail (*Sitanion hystrix*)	1
Shrubs	
Gardner's saltbush (*Atriplex gairdneri*)	1
Total	12.5

   * These seed rates are for drill seeding. If broadcast seeding, double the rates provided.
   ** Pure Live Seed

4. When dry, the reserve pit liners (if any) will be cut off as near to the mud surface as possible and hauled to the nearest landfill prior to backfilling the pit with a minimum of five feet of soil material.

5. Upon plugging and abandonment of the well location(s), fencing of the reseeded well site(s) may be required to exclude grazing and to help vegetation success, as determined by the BLM's Authorized Officer.

6. In the event of a dry hole, all equipment and debris will be removed from the location. Any improvements to the access road, such as culverts and gravel, will be removed. The drainages will be restored to their approximate original bank configuration and depth. Topsoil will be replaced over all cut areas. All disturbed areas will be seeded as indicated above.

7. The plugged and abandoned well(s) will be identified with a marker no more than four feet tall.

Reclamation of Water Disposal Pit(s) and Reservoir(s)

1. In accordance with 43 CFR 3162.5-1 *Environmental Regulations*:

   The operator shall exercise due care and diligence to assure that lease-hold operations do not result in undue damage to surface or subsurface resources or surface improvements. All produced water must be disposed of by injection into the subsurface, by approved pits, or by other methods which have been approved by the BLM's Authorized Officer and Wyoming DEQ. **Upon the**

conclusion of operations, the operator shall reclaim the disturbed surface in a manner approved or reasonably prescribed by the Authorized Officer.

Additionally, per Onshore Order No. 7, **"prior to pit abandonment, a reclamation plan must be submitted. If at that time, precipitated or collected solids are a problem, the Authorized Officer will require them to be disposed of properly."**

2. The Little Snake River Conservation District Reservoir (a.k.a. NRCS Reservoir; Compressor Reservoir) and the drainage which feeds it are directly downstream from the discharge point and are ultimately the collection point for any precipitates and collected solids discharged by these wells. It will be the sole responsibility of Double Eagle Petroleum to properly mitigate, remediate, and recontour any portion of the drainage and reservoir impoundment which are damaged, contaminated, or altered as a direct result of discharged CBM related produced water.

Other Information

1. Prior to discharging any CBM related produced water on the surface, including any temporary discharges, from the proposed wells into any drainage, any pit, or any reservoir or other impoundment, Double Eagle Petroleum will secure and maintain a valid NPDES permit or other proper authorization from the Wyoming DEQ and permits to appropriate groundwater from the Wyoming State Engineers's Office. Furthermore, no surface discharge will occur without prior authorization of the land owner, which in this case is the BLM.

2. The well pad construction and all road construction or reconstruction on public lands will be monitored by a licensed professional engineer or a qualified individual (*not the dirt contractor*) to assure that the actual construction meets the Bureau standards as outlined in the approved APD, BLM Manual section 9113, the Surface Use Plan, and these Conditions of Approval.

3. Double Eagle Petroleum Co. will be fully responsible for the actions of its subcontractors. A copy of the APD, Surface Use Plan, and these Conditions of Approval will be on location during all construction, drilling, and completion operations. Upon request, the Authorized Officer shall be shown copies of any and all of the above-referenced documents during field compliance inspections.

4. Weeds will be controlled on disturbed areas within the exterior limits of the access road ROW and well pad. The control methods will be in accordance with guidelines established by the EPA, BLM, and state/local agencies.

SITE-SPECIFIC WILDLIFE AND CULTURAL RESOURCE CONDITIONS OF APPROVAL

Wildlife Stipulations

The following greater sage-grouse seasonal restriction is applicable to the wells/ facilities listed below:

Well 12-7; Well 13-7; Well 14-7; Well 24-7; Well 33-7; Well 34-7; Well 43-7; and Well 44-7

1. Construction, drilling, and other activities potentially disruptive to strutting and nesting greater sage-grouse, are prohibited during the period of March 1 to June 30 for the protection of greater sage-grouse nesting areas.

2. Construction, drilling and other activities potentially disruptive to nesting raptors are prohibited during the period of February 1 to July 31 for the protection of raptor nesting areas.

Aquifer Recharge Well #1

1. Construction, drilling and other activities potentially disruptive to wintering wildlife are prohibited during the period of November 15 to April 30 for the protection of big game winter habitat (mule deer).

2. Construction, drilling, and other activities potentially disruptive to strutting and nesting greater sage-grouse, are prohibited during the period of March 1 to June 30 for the protection of greater sage-grouse nesting areas.

Aquifer Recharge Reservoir/ Water Disposal Pit

1. Construction, drilling and other activities potentially disruptive to wintering wildlife are prohibited during the period of November 15 to April 30 for the protection of big game winter habitat (mule deer).

2. Construction, drilling, and other activities potentially disruptive to strutting and nesting greater sage-grouse, are prohibited during the period of March 1 to June 30 for the protection of greater sage-grouse nesting areas.

**** Please be advised that due to limits on the available time of qualified personnel, the unpredictability of wildlife, and future weather conditions, requests for exceptions to impending wildlife stipulations will only be considered in the event of extraordinary and unavoidable occurrences over which the company has little or no control. Additionally, wells must be spud in a time frame which would allow for reasonably normal drilling and completion of the well prior to the beginning date of wildlife protection stipulations.**

Cultural Resources Stipulations

1. Well 12-7: Standard Stip.

2. Well 13-7: Standard Stip.

3. Well 14-7: Standard Stip.

4. Well 24-7: Standard Stip.

5. Well 33-7: Standard Stip.

6. Well 34-7: Standard Stip.

7. Well 43-7: Special caution shall be taken to ensure that the access road does not deviate from the corridor surveyed.

8. Well 44-7: Standard Stip.

9. Aquifer Recharge Reservoir/ Water Disposal Pit: Standard Stip.

Acknowledgment of Certification

1. Double Eagle Petroleum Company acknowledges that they, or persons under their direct supervision, have inspected the proposed drill sites and access routes; that they are familiar with the conditions which currently exist; that the statements made in their Surface Use Plan are, to the best of their

knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Double Eagle Petroleum Company and its contractors and subcontractors in conformity with their Surface Use Plan and these terms and conditions under which it may be approved. Double Eagle Petroleum Company's submitted Surface Use Plan and their acknowledgment of this statement confers acceptance of the provisions of 18 U.S.C. 1001 for the filing of a false statement.

2. Double Eagle Petroleum Company shall comply with the provisions of the law or the regulations governing the Federal or Indian right of reentry to the surface under 43 CFR 3814.

CONDITIONS OF APPROVAL FOR COW CREEK UNIT AQUIFER RECHARGE RESERVOIR/WATER DISPOSAL PIT

Lease Number: WYC-075345A **Date:** May 22, 2002

Project Name: Cow Creek Unit Aquifer Recharge Reservoir/ Water Disposal Pit

Operator: Double Eagle Petroleum Company

Project Name/ Description: Double Eagle Petroleum Co. requests BLM approval to construct a 280' x 400' "out-of-channel water disposal pit / aquifer recharge reservoir." This pit will be used to contain CBM-produced water that exceeds allowed limits of discharge into the LSRCD Reservoir under their current NPDES Permit.

Legal Description: T. 16 N., R.92 W., NESW, sec. 12.

1. The pit shall be constructed in a manner which minimizes the accumulation of surface precipitation and runoff into the pit. This can be accomplished by appropriate placement of subsoil/topsoil storage areas and/or construction of berms or ditches.

2. A minimum of six inches of topsoil will be stripped from the location (including areas of cut, fill, and/or subsoil storage areas) and stockpiled for future reclamation.

3. For the protection of livestock and wildlife, all pits will be fenced. Fencing will be constructed according to BLM specifications. The pit will remain fenced until the pit is dry and reclamation is initiated.

   Fencing Standards

   Thirty-two-inch net wire shall be used with two strands of barbed wire on top (above) the net wire.

   The net wire shall be no more than four inches above the ground. The first strand of barbed wire shall be about three inches above the net wire. Total height of the fence shall be at least 42 inches.

   Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

   Standard steel, wood, or pipe posts shall be used between the corner braces. The maximum distance between any 2 posts shall be no greater than 16 feet.

   All wire shall be stretched by using a stretching device before it is attached to the corner posts.

4. A **minimum of four feet of freeboard** shall be maintained within this pit at all times.

5. Pit construction shall exactly follow the size and dimensions shown in the survey titled, "proposed reservoir," which was included in the sundry submittal.

6. Absolutely no water from off-lease sources is to be disposed of within this pit prior to obtaining an approved right-of-way authorizing such use. The pit is not to be used for disposal of water from other sources without the prior written approval of this office.

7. Prior to discharging any CBM-related produced water on the surface, including any temporary discharges, from the proposed or existing wells into any drainage, pit, reservoir, or other impoundment, Double Eagle Petroleum will secure and maintain a valid NPDES permit or other proper authorization from the Wyoming DEQ and permits to appropriate groundwater from the Wyoming State Engineers's Office. Furthermore, no surface discharge will occur without prior authorization of the land owner, in this case the BLM.

8. Any changes regarding the facilities/pits used for disposal of produced water will be applied for as outlined in Onshore Oil and Gas Order No. 7, via a Sundry Notice before the changes take place.

9. Fluids containing hydrocarbons (condensate, diesel etc.) are not allowed in the pit.

10. Within 90 days of initial production start-up, the operator will submit to the BLM Authorized Officer an analysis of the produced water .

11. The operator shall have, on-site, a professional engineer or qualified inspector to serve as Compliance Coordinator. This individual will be responsible for assuring that all construction is in accordance with the submitted reservoir plans and these Conditions of Approval.

12. Double Eagle Petroleum Co. will notify the BLM Natural Resource Specialist a minimum of 72 hours prior to the start of reservoir construction.

13. In accordance with 43 CFR 3162.5-1 *Environmental Regulations*:

    "The operator shall exercise due care and diligence to assure that lease-hold operations do not result in undue damage to surface or subsurface resources or surface improvements. Upon the conclusion of operations, the operator shall reclaim the disturbed surface in a manner approved or reasonably prescribed by the Authorized Officer."

14. Per Onshore Order No. 7, prior to pit abandonment, a reclamation plan must be submitted. If, at that time, precipitated or collected solids are a problem, the Authorized Officer will require them to be disposed of properly.

15. It will be the sole responsibility of Double Eagle Petroleum to properly mitigate, remediate, recontour, and otherwise repair the location of this pit. This includes removing and disposing of contaminated soil, salt, and other mineral deposits at an authorized disposal facility.

16. Within 30 days of receipt of this approved sundry notice, a site diagram showing the entire and complete proposed facility layout including this pit, all current and proposed wells, and the NRCS Reservoir will be submitted to the BLM's Authorized Officer.

17. Double Eagle shall maintain and comply with a current, approved NPDES permit and all DEQ regulations.

18. All facilities will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of water. Any unauthorized discharge from this facility will be reported to the BLM as required by NTL-3A.

19. Water from the subject pit shall not be spread on the roadways for dust control, etc., without obtaining prior written approval from WOGCC and the BLM AO.

WILDLIFE SEASONAL RESTRICTIONS

1. Construction, drilling, and other activities potentially disruptive to wintering wildlife are prohibited during the period of November 15 to April 30 for the protection of big game winter habitat (mule deer).

2. Construction, drilling, and other activities potentially disruptive to strutting and nesting greater sage-grouse, are prohibited during the period of March 1 to June 30 for the protection of greater sage-grouse nesting areas.

   ****Please be advised that due to limits on the available time of qualified personnel, the unpredictability of wildlife, and future weather conditions, requests for exceptions to impending wildlife stipulations will only be considered in the event of extraordinary and unavoidable occurrences over which the company has little or no control. Additionally, wells must be spud in a time frame which would allow for reasonably normal drilling and completion of the well prior to the beginning date of wildlife protection stipulations.**